

10/089443

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PATENT

Docket No.: 12412/1

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

APPLICANTS : Akio SATOU et al.  
SERIAL NO. : (Natl. Phase of PCT/JP01/06131)  
FILED : 29 March 2002  
FOR : METHOD OF LASER BEAM MACHINING  
GROUP ART UNIT :  
EXAMINER :  
ASSISTANT COMMISSIONER  
FOR PATENTS  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

SIR:

Prior to examination of the above-identified application, please enter the following amendments.

**In the Specification:**

Page 7, line 10: Change "DISCLOSURE" to --SUMMARY--.

Page 10, line 1: Change "BEST MODE FOR CARRYING OUT THE INVENTION" to  
-- DETAILED DESCRIPTION --.

**In the Claims:**

Please amend the claims as follows:

1. (Amended) A method of laser beam machining, [characterized in that]

wherein a plurality of laser diode arrays are disposed in such a manner as to allow radiation of laser beams in a direction of a width of a part to be processed, and

[that] wherein each of the laser diode arrays is controlled in accordance with the direction of the width of the part to be processed so as to shape laser beams and irradiate the part to be processed with the laser beams.

2. (Amended) The method of laser beam machining according to claim 1,  
[characterized in that]

wherein each of the laser diode arrays is controlled and laser beams are shaped such that distribution of energy is changed in accordance with a width position of the part to be processed.

3. (Amended) The method of laser beam machining according to claim 2,  
[characterized in that]

wherein the distribution of energy is changed by controlling each of the laser diode arrays and shaping the laser beams such that laser beams with which the part to be processed is irradiated in its widthwise marginal portions exhibit a higher intensity than laser beams with which the part to be processed is irradiated in its widthwise central portion.

4. (Amended) The method of laser beam machining according to [any one of claims 1 to 3, characterized in that]

wherein laser beam machining is a processing which is selected from padding, welding and hardening and to which the part to be processed is subjected.

-- 5. The method of laser beam machining according to claim 2,

wherein laser beam machining is a processing which is selected from padding, welding and hardening and to which the part to be processed is subjected.--

-- 6. The method of laser beam machining according to claim 3,

wherein laser beam machining is a processing which is selected from padding, welding and hardening and to which the part to be processed is subjected.--

**REMARKS**

The specification has been amended to conform sub-titles to U.S. format.

The claims have been amended to render them in U.S. format and to delete the multiple dependency of claim 4. Claims 5 and 6 were added to recover the matter thus deleted. Attached hereto is a clean copy of the amended and new claims.

The Office is authorized to charge any underpayment or credit any overpayment to Kenyon & Kenyon's Deposit Account No. 11-0600.

Respectfully submitted,

*W.B.S. Nichols*

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Dated: 29 March 2002

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**WHAT IS CLAIMED IS:**

1. A method of laser beam machining,  
wherein a plurality of laser diode arrays are disposed in such a manner as to allow radiation of laser beams in a direction of a width of a part to be processed, and  
wherein each of the laser diode arrays is controlled in accordance with the direction of the width of the part to be processed so as to shape laser beams and irradiate the part to be processed with the laser beams.
  
2. The method of laser beam machining according to claim 1,  
wherein each of the laser diode arrays is controlled and laser beams are shaped such that distribution of energy is changed in accordance with a width position of the part to be processed.
  
3. The method of laser beam machining according to claim 2,  
wherein the distribution of energy is changed by controlling each of the laser diode arrays and shaping the laser beams such that laser beams with which the part to be processed is irradiated in its widthwise marginal portions exhibit a higher intensity than laser beams with which the part to be processed is irradiated in its widthwise central portion.
  
4. The method of laser beam machining according to  
wherein laser beam machining is a processing which is selected from padding, welding and hardening and to which the part to be processed is subjected.
  
5. The method of laser beam machining according to claim 2,  
wherein laser beam machining is a processing which is selected from padding, welding and hardening and to which the part to be processed is subjected.
  
6. The method of laser beam machining according to claim 3,  
wherein laser beam machining is a processing which is selected from padding, welding and hardening and to which the part to be processed is subjected.